



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,286	11/19/2001	Tomoki Takahashi	Q67251	8469

7590

01/27/2003

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 PENNSYLVANIA AVENUE N.W.  
Washington, DC 20037

EXAMINER

NGUYEN, HANH N

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 01/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

09/988,286

### Applicant(s)

TAKAHASHI ET AL.

### Examiner

Nguyen N Hanh

### Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) 3 and 4 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1,2,5,9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. in view of Csaki and further in view of Sekyra.

Regarding claim 1, Umeda et al. show an alternator comprising;

a case;

a rotor disposed inside said case, said rotor including a rotor coil for generating a magnetic flux on passage of an electric current therethrough, and a plurality of claw-shaped magnetic poles extending in an axial direction and covering said rotor coil, said claw-shaped magnetic poles being magnetized into North-seeking (N) and South-seeking (S) poles by said magnetic flux.

a stator including a stator core (41 in Fig. 3) provided with a plurality of slots formed so as to extend axially and be spaced circumferentially, and a stator winding (50 in Fig. 5) mounted to said stator core.

brushes for supplying electric current from an electric power supply to said rotor coil (Fig. 4).

The alternator disclosed by Umeda et al. fails to show a brush holding assembly secured to said case, said brush holding assembly holding said brushes within a holding portion and including a cover capable of being opened to remove said brushes, an open portion for removal and insertion of said brushes being formed at a position on said case facing said cover, wherein said brush holding assembly is constructed such that a holding assembly terminal is formed integrally therewith in a resin molding, said holding assembly terminal and a brush terminal mounted to a wire connected to said brushes being electrically connected by a connection member, a connection portion for connecting said holding assembly terminal and said brush terminal being disposed in said open portion.

However, Csaki discloses an electrical machine comprising:

a brush holding assembly secured to said case, said brush holding assembly holding said brushes within a holding portion (15) and being provided with a cover capable of being opened to remove said brushes (Fig. 1), an open portion for removal and insertion of said brushes being formed at a position on said case facing said cover (Fig. 1) for the purpose to make the brushes replaceable without requiring break-down and subsequent reassembly of any part of the electric motor.

Moreover, Sekyra shows an alternator wherein said brush holding assembly (Fig. 3) is constructed such that a holding assembly terminal (24) is formed integrally by a resin molding, said holding assembly terminal (24) and a brush terminal mounted to a wire (27 as shown in Fig. 2) connected to said brushes being electrically connected by a connection member (32), a connection portion for connecting said holding assembly

terminal and said brush terminal is disposed in said open portion for the purpose to replace the brushes without having to disassemble the whole alternator.

Since Umeda et al. and Csaki and Sekyra are in the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Umeda et al. by making an open portion in the alternator case with a brush holding assembly secured to said case, said brush holding assembly holding said brushes within a holding portion and including a cover capable of being opened to remove said brushes wherein said brush holding assembly is constructed such that a holding assembly terminal is formed integrally therewith in a resin molding, said holding assembly terminal and a brush terminal mounted to a wire connected to said brushes being electrically connected by a connection member, a connection portion for connecting said holding assembly terminal and said brush terminal being disposed in said open portion as taught by Csaki and Sekyra for the purpose of replacing the brushes without having to disassemble the whole alternator.

Regarding claim 2, Csaki also shows an electrical rotary machine wherein said brush holding assembly extends to a vicinity of said open portion for the purpose to lengthen the brushes so that they be used for a long period of time.

Regarding claim 5, Sekyra also shows that the alternator according to Claim 1 wherein said connection member is a screw (32 in Fig. 3).

Regarding claim 9, Umeda et al. also show the alternator according to Claim 1 wherein a conducting wire of said stator winding extends outwards in an axial direction from an end surface of said stator core and is formed into coil ends having a uniform shape in a circumferential direction (Fig. 3) for the purpose to reduce wind resistance and to improve cooling (Col. 2, lines 60-68).

Regarding claim 11, the structure disclosed by Umeda et al., modified by Csaki and Sekyra would have said holding assembly terminal, said brush terminal and said connection member are exposed in said open portion.

2. Claims 8, is rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. and Csaki in view of the applicant's admitted of prior art (Figure 18 in the specification).

Regarding claim 8, Umeda et al. and Csaki show all of the limitations of the claimed invention except showing the alternator according to Claim 1 wherein a regulator for adjusting a magnitude of an alternating voltage generated in said stator and a cooling plate placed in contact with said regulator are disposed on said brush holding assembly so as to overlap in an axial direction relative to said rotor.

However, the applicant's admitted of prior art (Figure 18 in the specification) shows the alternator wherein a regulator (13) for adjusting a magnitude of an alternating voltage generated in said stator and a cooling plate (14) placed in contact with said regulator are disposed on said brush holding assembly so as to overlap in an axial direction relative to said rotor for the purpose to improve cooling.

Since Umeda et al., Csaki and the applicant's admitted of prior art are all in the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the other.

It would have been obvious to one having ordinary skill in the art to form an alternator wherein a regulator for adjusting a magnitude of an alternating voltage generated in said stator and a cooling plate placed in contact with said regulator are disposed on said brush holding assembly so as to overlap in an axial direction relative to said rotor as taught by the applicant's admitted of prior art for the purpose discussed above.

3. Claims 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. and Csaki in view of Sekyra as respectively applied to claim 5 above and further in view of Janette.

Regarding claim 6, the alternator formed by Umeda et al. and Csaki modified by Sekyra includes all of the limitations of the claimed invention except for the screw is inserted into and removed from a connection portion where said holding assembly terminal and said brush terminal are connected in a circumferential direction relative to said rotor.

However, Janette shows a brush holding assembly (Fig. 2) wherein the screw (13) is inserted into and removed from a connection portion where said holding assembly terminal (5 in Fig. 3) and said brush terminal are connected in a circumferential direction relative to said rotor for the purpose to provide a connection which will be easily applied as well as durable and efficient in operation.

Since, Umeda et al., Csaki, Sekyra and Janette are in the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to form an alternator wherein said brush holding assembly has a screw member is inserted into and removed from said connection portion in a circumferential direction relative to said rotor as taught by Janette for the purpose discussed above.

4. Claims 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. and Csaki in view of Sekyra as respectively applied to claim 5 above and further in view of Hyatt, Jr. et al.

Regarding claim 7, the alternator formed by Umeda et al. and Csaki modified by Sekyra includes all of the limitations of the claimed invention except for the screw is inserted into and removed from a connection portion where said holding assembly terminal and said brush terminal are connected in an axial direction relative to said rotor.

However, Hyatt, Jr. et al. show a brush holding assembly (Fig. 1) wherein the screw (56) is inserted into and removed from a connection portion where said holding assembly terminal (groove 46) and said brush terminal (18) are connected in an axial direction relative to said rotor for the purpose to provide a connection which will be easily applied.



Since, Umeda et al., Csaki, Sekyra and Hyatt, Jr. et al. are in the same field of endeavor, the purpose disclosed by one inventor would have been recognized in the pertinent art of the others.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to form an alternator wherein said brush holding assembly has a screw member is inserted into and removed from a connection portion where said holding assembly terminal and said brush terminal are connected in an axial direction relative to said rotor as taught by Hyatt, Jr. et al. for the purpose discussed above.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umeda et al. in view of Csaki and Sekyra and further in view of Fiorenza et al.

Regarding claim 10, the alternator structure disclosed by Umeda et al., modified by Csaki and Sekyra shows all limitations of the claimed invention except showing the alternator further comprising a cap member removably mounted over said open portion for allowing access to said brush holding assembly via said open portion.

However, Fiorenza et al. disclose a motor provided with a cap member (130 in Fig. 4) removably mounted over said open portion for allowing access to said brush holding assembly via said open portion for the purpose of closing the housing.

Since, Umeda et al., Csaki, Sekyra and Fiorenza et al. are in the same field of endeavor, the purpose disclosed by one Fiorenza would have been recognized in the pertinent art of Umeda et al., Csaki and Sekyra.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to form an alternator provided with a cap member removably mounted over said open portion for allowing access to said brush holding assembly via said open portion as taught by Fiorenza et al. for the purpose discussed above.

### ***Response to Arguments***

6. Applicant's arguments filed on 11/14/02 have been fully considered but they are not persuasive. Applicant's argument is on the ground that none of the references recited by the Examiner teach that "a connection portion for connecting said holding assembly terminal and said brush terminal being disposed in said open portion" and the member 24 is not a terminal but rather is simply an outer resin shell surrounding the hollow metal core 20 which houses the brush 10. The Examiner respectfully disagrees with the Applicant. Refer to Fig. 5, 11 and page 9 of the specification, "a connecting portion" is not an element or a member of the brush assembly. As best understood, it is a location where the holding assembly terminal and the brush terminal are connected together. Therefore, Sekyra fully discloses in Fig. 3: "a holding assembly terminal (24) is formed integrally by a resin molding, said holding assembly terminal (24) and a brush terminal (the portion on the right hand side of the spring 35) mounted to a wire (27 as shown in Fig. 2) connected to said brushes being electrically connected by a connection member (32), a connection portion for connecting said holding assembly terminal and said brush terminal is disposed in said open portion". Moreover, the member can be interpreted as a terminal (a part that forms the end) because member 24 is formed at

one end of the brush assembly to hold the brush. In short, the claims are interpreted as broad as possible and they still do not clearly and distinctly claim the subject matter of the invention. Therefore, the rejection is still deemed proper.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### ***Information on How to Contact USPTO***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (703)305-3466. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703)308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3431 for regular communications and (703)305-3431 for After Final communications.

Application/Control Number: 09/988,286

Page 11

Art Unit: 2834

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.

HNN

January 17, 2003



NESTOR RAMIREZ  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800